11. Tyler

Program Name: Tyler.java **Input File: tyler.dat**

Tyler is a rich philanthropist and is a big fan of the trend of "doubling it and giving it to someone else." This trend consists of starting with a single dollar and giving participants the option of either doubling the current dollar amount and giving it to someone else, or keeping the current amount of money for themselves. This continues until someone chooses to take the money for themselves. Due to Tyler's large wealth, he has larger ambitions.

Rather than simply doubling the current amount of money and giving it to someone else, Tyler prefers giving his participants options of what to multiply the current amount of money by. As a result, he is curious whether certain dollar amounts are obtainable given a list of options to multiply the current amount of money by. You have been contracted by Tyler to develop a program which can help him automatically solve such a problem.

Input: The first line of input will consist of two integers, n and m – the number of options for multipliers and the number of queries, respectively. The next line will consist of a list of n space-separated integer multipliers. The following line will consist of a list of m space-separated integer queries indicating target dollar amounts that Tyler is interested in. It should be noted that $1 \leq n, m \leq 10^3$.

Output: For each of the m queries, print on its own line the string "Target <t>: <ANS>", where <t> is the ith target and <ANS> is the string "YES" or "NO" corresponding to whether or not the ith target is obtainable using any sequence of the m multipliers, each of which can be used any number of times.

Sample input:

```
5 10
2 3 5 7 11
2 13 5 26 121 77 15 144 154 5336100
```

Sample output:

```
Target 2: YES
Target 13: NO
Target 5: YES
Target 26: NO
Target 121: YES
Target 77: YES
Target 15: YES
Target 144: YES
Target 154: YES
Target 5336100: YES
```